

Koch, Kristine

From: Genevieve Angle - NOAA Federal <genevieve.angle@noaa.gov>
Sent: Tuesday, September 01, 2015 12:28 PM
To: Sheldrake, Sean
Cc: Koch, Kristine
Subject: Re: FW: Mitigation acres/cost calculations

Hi Sean,

A few of things:

- 1) Unless policy changes before implementation of the clean up actions, we will probably use Habitat Equivalency Analysis (HEA) to determine mitigation for these projects, and our HEA values state that shallow water habitat is defined as less than 20 feet of water depth as measured at the ordinary low water level. I'm not sure how different that level is from mean lower low water, but it may change the mitigation calculations a bit.
- 2) While shallow water habitat is likely to require the most mitigation, depths below shallow water habitat could also factor into mitigation calculations, if, for example, riprap is placed where there was once sand. This mitigation would be much less though that if the same actions were taken in shallow water habitat.
- 3) Elevation change will not necessarily determine mitigation needs. If an area is converted from the shallow water definition to something deeper or riparian, then of course mitigation would be necessary. But mitigation would also be necessary if there is no change in elevation and, for example, riprap is placed. Or no mitigation may be necessary if substrate stays the same, and elevation change happens but elevations stays within the shallow water habitat definition. The way you wrote it just made it sound like elevation change was necessary and sufficient for mitigation to be required, which will not be the case. I understand if this is just an assumption you need to make for the FS though.

Thanks for taking the time to run this by me.

Genevieve

Genevieve Angle

Biologist

NOAA Fisheries West Coast Region

U.S. Department of Commerce

Phone:(503)231-2223

genevieve.angle@noaa.gov

www.westcoast.fisheries.noaa.gov



On Tue, Sep 1, 2015 at 11:19 AM, Sheldrake, Sean <sheldrake.sean@epa.gov> wrote:

Hi Genevieve, Can you take a look at this edited language on shallow water habitat work, and let us know if this meets your expectations for minimizing any necessary mitigation for work in this depth range?

Thank you.

S

In the FS, a simplified approach was used to determine the extent of mitigation that could be required under each alternative and to develop mitigation cost estimates. Given the importance of shallow water and riverbank habitat, it was assumed that shallow water and riverbank areas having cap and dredge technology assignment with armoring would have unavoidable impacts that would require compensatory mitigation. NMFS defines shallow water as a water column depth of less than 20 feet as measured at Mean Lower Low Water (cite SLOPES BiOp). Since Mean Lower Low Water is at an elevation of 7 feet NAVD88, shallow water would extend to a depth of -13 feet NAVD88 according to NMFS' definition. Therefore, the area assumed to require mitigation was calculated to this depth. Areas requiring mitigation were assumed to include all areas within this shallow water definition where "construction" (e.g., capping, dredging, in situ treatment, and EMNR) would occur, elevation change is made, and no beach mix would be applied. Beach mix refers to a mix of rounded gravel (typically 2.5 inches or less) used to provide appropriate substrate for the aquatic habitat present. These acreages were totaled and then multiplied by a unit cost for mitigation, which was based on previous mitigation projects conducted in the Lower Duwamish Waterway (Appendix X- Detailed Cost Evaluation).

Sean Sheldrake, Unit Diving Officer, RPM

EPA Region 10, 1200 Sixth Ave., Suite 900; Mailstop DOC-01

Seattle, WA 98101

[206.553.1220](tel:206.553.1220) desk

[206.225.6528](tel:206.225.6528) cell

<http://yosemite.epa.gov/r10/cleanup.nsf/sites/ptldharbor>

<http://www.epa.gov/region10/dive/>

[206.553.6379](tel:206.553.6379) Dive Operations Center

[206.369.7500](tel:206.369.7500) Dive Unit cell

Like us on Facebook! <https://www.facebook.com/EPADivers>